Know the Earth…Show the Way

Mainstreaming AGI

Moving-out with Training and Education for the Intelligence Community and the DoD

MAJ Jim Pugel
Advanced Geospatial Intelligence Division
National Geospatial Intelligence School
20 April 2004

What We'll Talk About…

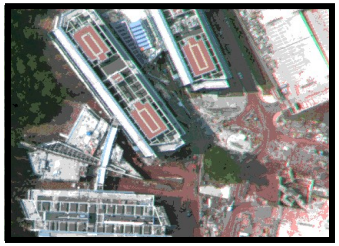
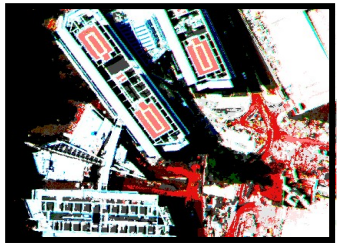
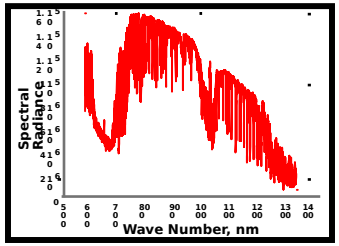
- Geospatial Intelligence
- AGI training today
- Mainstreaming AGI
- Highlights
- Take-Aways

Life Before Geospatial Intelligence…

Coulommies, France
World War II

Advanced Geospatial Intelligence (AGI)

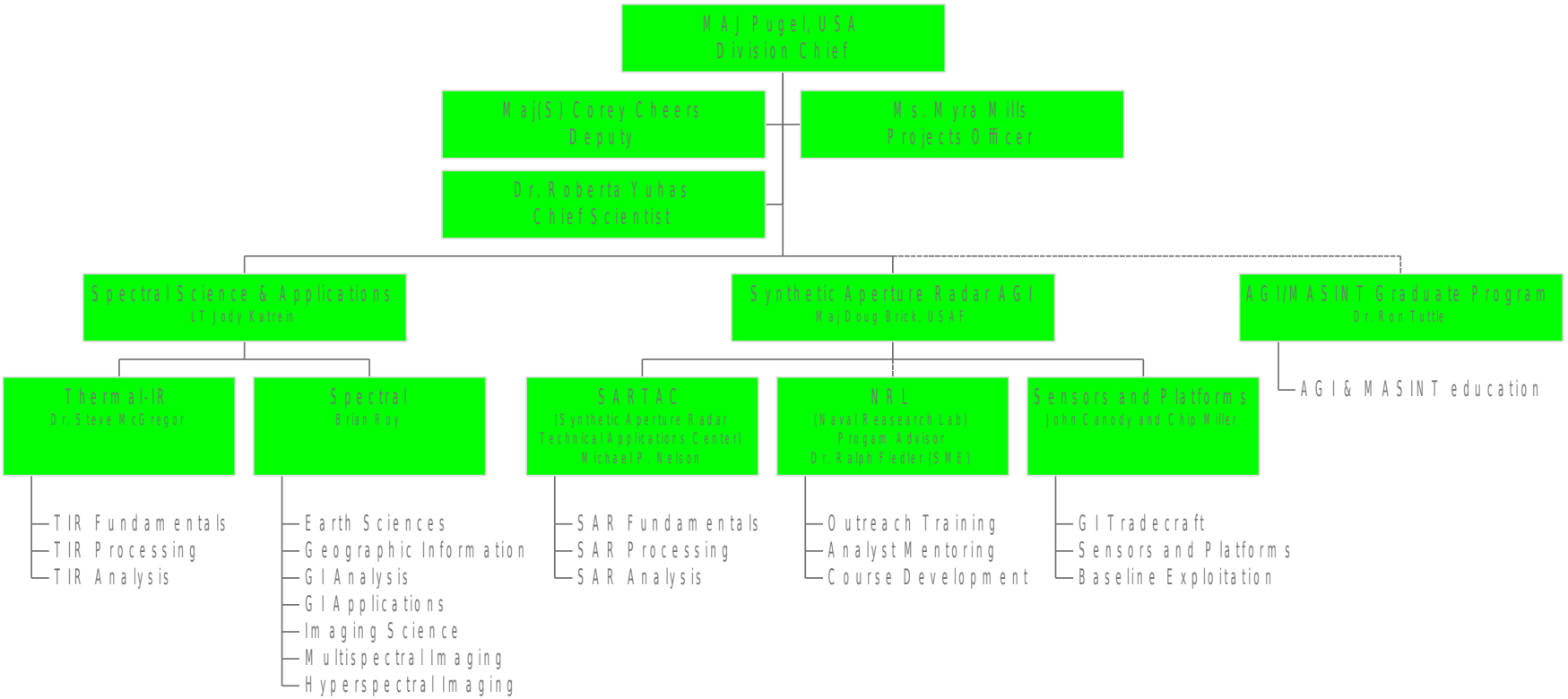
Advanced Geospatial Intelligence (AGI) is the technical, geospatial, and intelligence information derived through interpretation or analysis using advanced processing of all data collected by imagery or imagery-related collection systems.

E/O	Infrared	Multispectral	Hyperspectral	Ultraspectral
				
• 1 Band • δλ = 0.5 µm	• 1 Band • δλ = 2 µm	• 10s of Bands • δλ = 0.06-0.2 µm	• 100s of Bands • δλ = 0.01 µm	• 1000s of Bands • δλ = 0.0002 µm
• Location • Classification • Mensuration • Capacity • Activity	• Radiometrics • Thermometry • Status - Operational potential	• Terrain Categorization • Target Detection and Identification • Camouflage Detection • Land Use and Classification • Crop Assessment • Trafficability • LOC Extraction	• Materials Identification • Vegetative Change • Camouflage Identification • Battle Damage Assessment • Targets	• Materials Detection and Identification - Solids - Liquids - Gases • Gas Detection, Identification and Quantification

Advanced Geospatial Intelligence Training

- **Mission**: NGS provides the Community with a comprehensive training, education, and certification program for Advanced Geospatial-Intelligence (AGI) in order to enable the Community with multi-INT AGI production sites and consumers world-wide.
- ***GOAL:***
  - Mainstream AGI
  - Integrate training, education, and certification
  - Lead a Community forum for training and education (CFWG)
  - Enable a Multi-INT, AGI production center
  - Develop and deliver training for NGA in concert with new capability and technology fielding

The AGI Training & Education Division



FY04 AGI Training

SPECTRAL (RSI-ARSI-MSI-HSI)			
Spectral Analysis Overview	1 Hour	Analyst/Decision Maker	By Request
Introduction to Remotely Sensed Imagery	5 Days	Specialty Analyst/Scientist	Ft. Belvoir
Advanced Remotely Sensed Imagery	5 Days	Specialty Analyst/Scientist	Ft. Belvoir
Hyperspectral Data Exploitation	5 Days	Specialty Analyst/Scientist	Ft. Belvoir
Multispectral and Hyperspectral Imagery Education	10 Days	Analyst/Scientist	WPAFB, OH
RADAR and SYNTHETIC APERATURE RADAR (R-SAR)			
SAR AGI Executive Overview	1-2 Hours	Analyst/Decision Maker	By Request
SAR AGI Fundamentals	2 Days	Analyst/Decision Maker	Chantilly
SAR AGI Requirements Course	3 Days	Collection Managers	Chantilly
SAR AGI Processing Course	5 Days	Specialty Analyst/Scientist	Chantilly
SAR AGI Exploitation Course	5 Days	Specialty Analyst/Scientist	Chantilly
Radar/SAR Education	10 Days	Analyst/Scientist	WPAFB, OH
THERMAL INFRARED (TIR)			
TIR Executive Overview	1-4 Hours	Analyst/Decision Maker	By Request
Advanced Thermal Analyst	10 Days	Analyst/Scientist	By Request
Fundamentals of Infrared (IR) Education	15 Days	Analyst/Scientist	WPAFB, OH
Overhead Non-Infrared (ONIR) Education	10 Days	Analyst/Scientist	WPAFB, OH
FUTURE IMAGERY REQUIREMENTS (FIR)			

Training and Education Delivery

- Resident course delivery (local D.C. area)
  - Schedules/Registration:
    - Janet Brooks (703)805-3213
- Mobile Training (your location)
  - Define and Validate requirements:
    - Maj(S) Corey Cheers (703)805-2205
  - Direct official requests through:
    - Ms. Julie Kligman (703)805-2237
- AGI/MASINT Certificate Program (WPAFB, Ohio)
  - Schedules/Registration:
    - Evelyn Roman-Amador (937)431-6606
    - http://en.afit.edu/cmsr/mcp.html
- Commonwealth Training (GBR, AUS, CAN)
  - Utilize NGA Commonwealth representatives

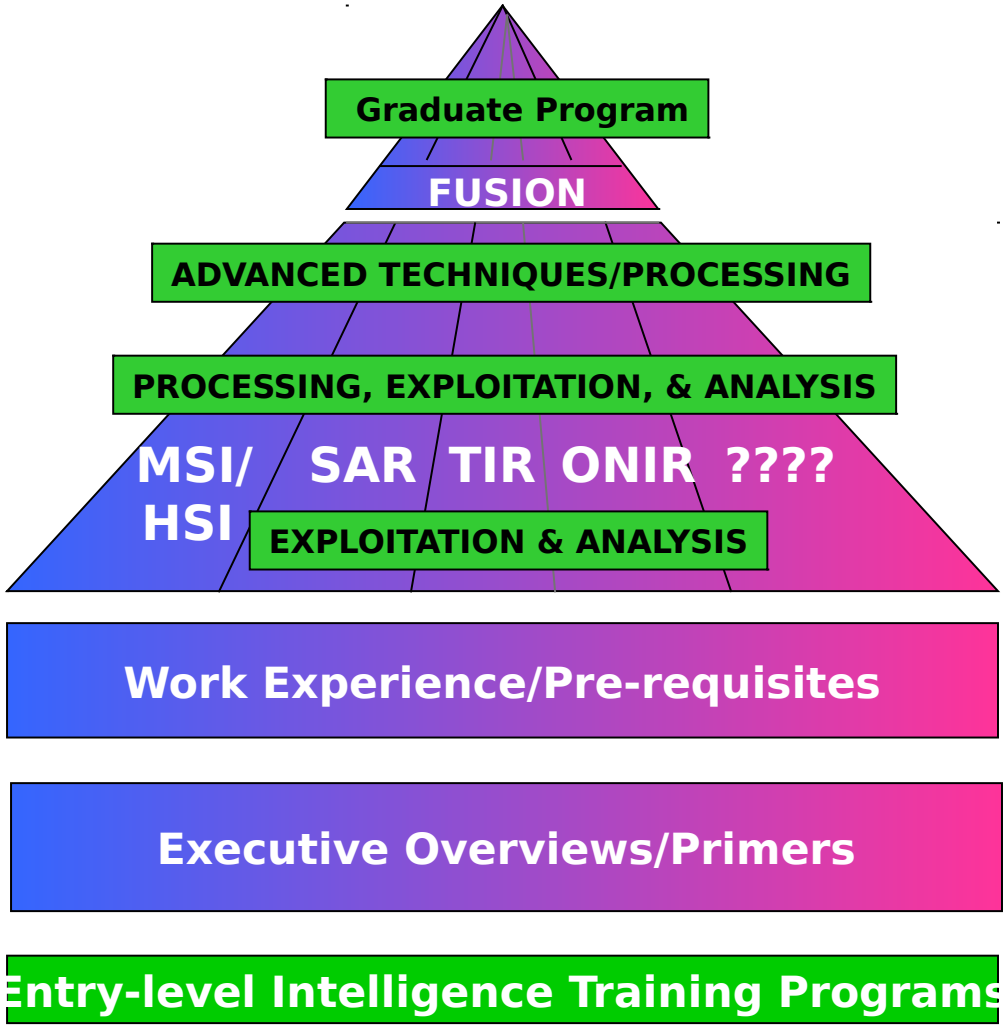
Training Assessment

- "Is it imagery or is it MASINT?"
  - Who needs to be trained?
- Training is focused on 'processing'
  - Analysts 'forced' to learn analysis through processing
- Courses targeted for particular audiences
  - AGI production is not standard
  - Community lacks a standard to grow professionals
- Customers know that they "want AGI"
  - Don't understand capabilities and limitations
  - Basic exploitation skills are deficient
  - Often request training that does not meet needs
  - Request before capability in place

Training Methodology

The Technically-Derived Intelligence Training Program

- Executive Overviews
  - Awareness (1-4 hours)
- Entry-Level Courses
  - Primers (1-2 days)
  - Consumer Course (5 days)
  - Introduction Courses (3-5 days)
- Intermediate-Level Courses
  - Analyst Courses (5-10 days)
  - Processor Courses (5-10 days)
  - Fusion Courses (2-5 days)
- Advanced-Level Courses (1-5 days)
- Advanced-Level Education Courses (10 days)



Near-term Timeline

- AGI training "kick-off" Primer May (FY04)
- New Course Development summer (FY04)
  - Spectral, SAR, TIR, ONIR AGI Primers (1 day)
  - SAR phenomenology (3 days)
  - SAR Feature Exploitation (7 days)
  - Spectral, SAR, TIR analyst Courses (5 days) (FY04-05)
- Coordinate Community Training and Education Program (FY04)
- Transition existing NGA, SARTAC, AFIT courses (FY04-05)
- AFIT AGI/MASINT Certificate Program
  - Concentration for the JMIC MSSI (FY04)
  - Program in D.C. area (FY05)
- AGI classroom at the NGA Navy Yard (FY04)
- AGI mobile lab (FY04)

The “Primer” Description

- End State: Learn the capabilities and limitations of AGI, request and interpret the products derived from imagery or imagery related collection systems to answer Essential Elements of Information
- End State Competencies:
  - Acknowledge AGI technology and it’s utility as an intelligence tool
  - Know the standard AGI products and recognize their capabilities and limitations
  - Compare and contrast AGI with traditional imagery products to determine effectiveness
  - Describe how to obtain a product
  - List resources that provide assistance and training

“What it is, what it isn’t, how do I get some?”

"Take-Aways"

- Training and education are available today through NGA
- AGI training requires prerequisite training and or experience
- NGA is *institutionalizing* AGI capabilities through integrated training
- AGI training and education are based upon Intelligence Community requirements

Questions?

- MAJ Jim Pugel, USA
  - Division Chief (703)805-3251
- Maj(S) Corey Cheers, USAF
  - Division Deputy (703)805-2205
- Maj Doug Brick, USAF
  - Chief, SAR AGI Training
- Dr. Stephen McGreggor, NGA
  - Chief, TIR AGI Training
- LT Jody Katrein, USN
  - Chief, Spectral AGI Training